

Amendments to the Drawings:

The drawings were objected to as failing to comply with 37 C.F.R. § 1.84(p)(4) because reference character "15" was used to designate both reinforcing mesh and weld joint in Figures 1 and 14 respectively. The attached Replacement Figure 1 shows that reference numeral 15 has been deleted and replaced with reference numeral 9. In addition, the specification has been amended to reflect the change. Replacement Figure 14 is also attached and more clearly shows reference numeral 15.

Remarks:

Applicant has read and considered the Office Action dated September 22, 2005 and the references cited therein. Claim 9 has been amended and claims 1-14 are currently pending.

In the Action, the drawings were objected to as reference character 15 has been used to designate mesh and a weld joint in different Figures. Figure 1 has now been amended so that reference numeral 15 has been deleted and replaced with reference numeral 9 to refer to the mesh. In addition, the specification has been amended to reflect the change. Replacement Figure 14 is also included to more clearly show the reference numerals.

Applicant further notes that the specification has been amended to correct several minor grammatical errors and inconsistencies. Applicant asserts that no new matter has been added.

Claims 1-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Taft in view of Morton. Applicant respectfully traverses the rejection. Applicant asserts that the Office Action contends that Taft does not teach that the shoe is fixed to the primary frame members by a structural joint but that Morton teaches framing structures having a primary frame member, a secondary frame member, a shoe fixed on the primary frame member by a structural joint of weld. The Office Action contends that it would have been obvious to one of ordinary skill in the art to combine Taft with Morton to achieve the structural joint such as welds. Applicant asserts that one of ordinary skill in the art would not have been led to utilize the teachings of Morton. The present invention is directed to a composite concrete floor, whereas Morton relates to diaphragms for resisting deformation due to horizontal shear loads caused by earthquakes and/or high winds imposed through external loads.

Moreover, Taft provides a different solution to a different problem than the present invention. Taft relates to the use of a stud shear-connector using a top chord (20, 22) of the primary framing members (12) as a continuous sheer connector in composite construction. Taft

teaches that the purposes of the composite floor construction are to save considerable steel weight and cost as stated in column 1. Therefore, one of ordinary skill in the art of composite floors when viewing Taft would not look to a steel floor technology for solutions to produce composite action.

As stated above, Morton discloses a diaphragm made with a fluted deck and attachments on the top flutes and bottom flutes of the deck to support the deck. The diaphragm transfers loads in a plane from the deck to the supporting member. However, Morton does not have a supporting member acting in composite with the concrete slab as recited in the claims of the present invention and does not provide a composite action. As recited in column 1, lines 11-15, the shear loads that Morton attempts to address are those caused by earthquakes and/or high winds. Morton also states that metal decks or diaphragms have replaced the other structural systems. It can be seen that Morton is has a fluted deck 16, a c-shaped channel 40 and a load bearing member 12 all being made of steel with no composite action between the various components. Morton does not teach or suggest any composite action between the concrete slab and the supporting member 12 to increase vertical load capacity. The only mention of concrete in Morton is at column 3, lines 13-15, which mentions that concrete may be poured upon the diaphragm to form the floor of the working surface of the diaphragm.

As Morton does not relate to composite concrete floors, one of ordinary skill in the art of composite concrete floors would not look to Morton or its field of steel flooring to find a solution concerning composite concrete floors. Moreover, Applicant notes that both the Morton and Taft patents have been known for more than twenty years with no combination of such technology, suggesting a long felt need in the industry.

The present invention provides a new and non-obvious solution to improving the structure in composite floors. The shear shoes of the present invention increase the composite action of the concrete and steel components. The present invention eliminates the need to use the top chord of the primary framing member as in Taft or a stud-type shear connector. The use

of a shear shoe at the end of open web joists is as a shear transfer device to increase the bond between the concrete slab of the floor and the supporting member in order to increase load capacity of the supporting member in a composite floor system is new and novel. This solution is not obvious to one of ordinary skill in the art without hindsight. Applicant asserts that the combination of Morton and Taft requires hindsight and that at the time of the invention, it would not have been obvious to one of ordinary skill in the art to combine the references.

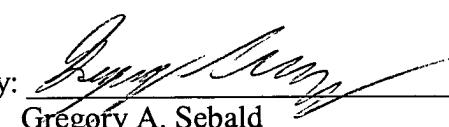
Applicant asserts that claims 1 and 11 are new, novel and non-obvious over the combination of Taft and Morton. Moreover, Applicant asserts that the claims depending therefrom are also allowable for at least the reasons discussed above. Applicant asserts that the claims overcome the obviousness rejection and request that the rejection be withdrawn.

A speedy and favorable action on the merits is hereby solicited. If the Examiner feels that a telephone interview may be helpful in this matter, please contact Applicant's Representative at (612) 336-4728.



Dated: 3/14/06

Respectfully submitted,
MERCHANT & GOULD P.C.

By: 
Gregory A. Sebald
Reg. No. 33,280
GAS/krn